## REMARKS

### 1. Amendments to the Claims

Claims 1-13, 15 and 16 are pending. Claims 1, 15 and 16 are herein amended. Support for the amendments to claims 1, 15, and 16 is found, for example, in the Specification in figure 7, where examples of the programming (i.e., rules) which are suitable to define the display characteristics are disclosed. (See also, Specification, page 18, lines 1-17, and beginning at page 25, line 3-24). No new matter has been added.

### 2. Interview Summary

Applicants thank the Examiner for extending to their representatives the courtesy of an Interview. During the Interview, claims 1, 15 and 16 were discussed. No agreement was reached, however, Applicants thank the Examiner for speaking with their representatives.

### 3. Rejections Under 35 U.S.C. § 101

The Examiner has rejected claims 1-13, 15 and 16 under 35 U.S.C. § 101 as directed to non-statutory subject matter. The Examiner cites *In re Bilski*, 88 U.S.P.Q.2d 1385, 545 F.3d 943 (Fed. Cir. 2008) (*en banc*), as support for the conclusion that this is non-statutory subject matter.

As a preliminary issue, Applicants note that *In re Bilski* was based upon a business method. The Court explicitly declined to apply the ruling of *In re Bilski* to "any other such category of subject matter." *Bilski,* 88 U.S.P.Q.2d at 1395, n. 23. "A claimed process is surely patent-eligible under §101 if: (1) it is tied to a particular machine *or* apparatus, or (2) it transforms a particular article into a different state or thing." *Id.* at 1395. Applicants submit that the presently claimed invention meets both prongs of the machine-or-transformation test.

#### *a. Particular Machine*

The claims are directed to "a method for visualizing correlation data concerning two biological events or the correlation data and feature data regarding each event in a matrix format in a suitably programmed computer." (Claim 1). Applicants submit that the machine in the present invention must be programmed suitably to carry out the claimed method as supported by

the Specification at page 18, lines 1-17 and original claim 15, directed a "computer-readable recording medium in which a program for causing a computer to implement the visualizing method, analysis method or database . . . is stored." Accordingly, Applicants submit that the claims are suitably tied to a particular machine such that they include patentable subject matter.

***b. Transformation***

Applicants submit that even under *Bilski*, the claims meet the transformation standard. The visualization and transformation of data was considered in *In re Abele*, 214 U.S.P.Q. 682, 684 F.2d at 909 (C.C.P.A. 1982). In *Abele,* the visualization of data was a sufficient transformation when that data used to generate the visualization was defined by a technological application. *Abele,* 214 U.S.P.Q. at 688. Bilski positively referred to *Abele*:

> Our predecessor court's mixed result in *Abele* illustrates this point. There, we held unpatentable a broad independent claim reciting a process of graphically displaying variances of data from average values. *Abele*, 684 F.2d at 909. That claim did not specify any particular type or nature of data; nor did it specify how or from where the data was obtained or what the data represented. *Id.*; *see also In re Meyer*, 688 F.2d 789, 792-93 [215 USPQ 193] (CCPA 1982) (process claim involving undefined "complex system" and indeterminate "factors" drawn from unspecified "testing" not patent-eligible). In contrast, we held one of Abele's dependent claims to be drawn to patent-eligible subject matter where it specified that "said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner." *Abele*, 684 F.2d at 908-09. This data clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly-claimed process patent-eligible.
>
> We further note for clarity that the electronic transformation of the data itself into a visual depiction in *Abele* was sufficient; the claim was not required to involve any transformation of the underlying physical object that the data represented.

*Bilski,* 88 U.S.P.Q.2d at 1394.

Applicants submit that following the logic of *Abele* and *Bilski*, the claims contain patentable subject matter. The claims specifically identify correlation data from biological events and feature data from biological events. Applicants submit that the transformation in the present situation is like the transformation of Abele, because it is a tangible visual depiction of a relationship between biological events.

*c. Applicants do not seek to preempt natural phenomena.*

Natural phenomena are not patentable. "The Court in Diehr thus drew a distinction between those claims that "seek to pre-empt the use of" a fundamental principle, on the one hand, and claims that seek only to foreclose others from using a particular "application" of that fundamental principle, on the other. 450 U.S. at 187." In re Bilski, 88 U.S.P.Q.2d 1385, 1390, 545 F.3d 943 (Fed. Cir. 2008) (*en banc*). Applicants submit that the claims do not pre-empt a fundamental principle, but instead apply a principle to a specifically programmed machine to obtain a visual depiction of a relationship between biological events. The application does not foreclose all relationships between any type of events, nor does it foreclose all possible visual depictions of the relationship between biological events. Accordingly, Applicants submit that the claims are drawn to patentable subject matter. Applicants request that the rejection be withdrawn.

**4. Rejections Under 35 U.S.C. § 103**

Claims 1-10, 12, 13, 15 and 16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ge in view of Cras et al. (hereinafter "Cras"). Applicants respectfully traverse.

The cited prior art references do not disclose the specific technical features of the present invention. The Examiner states that Ge does not show summarization levels. (Office Action, page 7). Applicants submit that Ge also does not disclose a plurality of display formats. Furthermore Ge does not select one display and one summarization format from the plurality of summarization levels and display formats. Cras et al. does not remedy these deficiencies. Cras, likewise, does not show a plurality of display formats, wherein a plurality of summarization levels are prepared. Accordingly, Applicants submit that the combination of Ge and Cras does not make the present claims obvious. Applicants respectfully request that the rejection be withdrawn.

Claim 11 stands rejected under 35 U.S.C. § 103 as being unpatentable over Ge and Cras and further in view of Artymiuk. However, claim 11 requires the plurality of summarization levels and plurality of display formats discussed above. The combination of Ge, Cras, and Artymiuk does not disclose these elements. Accordingly Applicants submit that the combination of references does not

render the present invention obvious. Applicants respectfully request that the rejection be withdrawn.

Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Mary M.H. Eliason Reg. No. 58,303 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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